

Claims

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1. A video signal processing system comprising, for each colour channel, a control circuit and clamping circuit for generating a colour channel reference signal and controlling a colour channel video signal, and a brightness limitation circuit coupled to receive the colour channel reference signal from each of the colour channels and coupled to provide a feedback signal to regulate a brightness level of each video signal according to a comparison of a minimum signal level amongst the colour channel reference signals and a fixed reference signal level.
2. A video signal processing system as claimed in claim 1, wherein the brightness limitation circuit comprises a minimum detection circuit for detecting and outputting a minimum signal level from amongst the colour channel reference signals, and a comparator having as inputs said fixed reference signal level and said minimum signal level, and producing said feedback signal as output.
3. A video signal processing system as claimed in claim 2, wherein said comparator is coupled to receive said minimum signal level at its negative input and said fixed reference signal level at its positive input.
4. A video signal processing system as claimed in claim 2 or 3, wherein each said control circuit includes a plurality of adders coupled in the signal path of the corresponding colour channel reference signal, and wherein said feedback signal is coupled as input to one of said adders.
5. A video signal processing system as claimed in claim 4, wherein said feedback signal is coupled from the brightness limitation circuit to the control circuit by way of a brightness control circuit which enables manual brightness adjustment of the colour channels.

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6. A video signal processing system as claimed in claim 5, wherein said brightness control circuit incorporates an adder for combining the feedback signal with a manual brightness adjustment signal.

5 7. A video signal processing system as claimed in claim 4, further including at least one cut-off adjustment circuit coupled to provide input to a respective adder in the signal path of the colour channel reference signal in each control circuit.

8. A video signal processing system as claimed in any one of claims 1 to 7, wherein each  
10 said control circuit includes an adder circuit coupled in the signal path of the corresponding colour channel video signal, and wherein a feedback signal from said clamping circuit, generated according to the colour channel video signal and the colour channel reference signal, is coupled as input to the adder circuit.

15 9. A video signal processing circuit for regulating colour channel video information signals, comprising a minimum signal detector for detecting a minimum signal level amongst a plurality of colour channel reference signals, a comparator which compares said minimum signal level with a fixed voltage reference signal and generates a corresponding output, and an additive feedback coupling of said comparator output signal and each of said colour  
20 channel reference signals.

10. A video signal processing circuit as claimed in claim 9, including a brightness control circuit for adjusting the video signal brightness level by manual adjustment of said colour channel reference signals, wherein said additive feedback coupling of said comparator output  
25 signal is coupled through said brightness control circuit.

11. A video signal brightness controller, comprising:  
a plurality of colour channel control means each coupled to receive as input a respective colour channel video signal and colour channel reference signal and generate a  
30 respective adjusted colour channel video signal and adjusted colour channel reference signal;

## AMENDED CLAIMS

[received by the International Bureau on 03 March 1999 (03.03.99);  
new claim 13 added; remaining claims unchanged (1 page)]

a plurality of clamping means, each clamping means corresponding to a respective colour channel control means and being coupled to receive as input the respective adjusted colour channel video signal and adjusted colour channel reference signal and produce a corresponding clamping feedback signal; and

- 5 a brightness limitation means coupled to receive the adjusted colour channel reference signal from each colour channel control means and produce a corresponding brightness feedback signal;

wherein each said colour channel control means includes a first adder in path of the colour channel video signal, to which said clamping feedback signal is coupled, and a second  
10 adder in the path of the colour channel reference signal, to which said brightness feedback signal is coupled.

12. A video signal brightness controller as claimed in claim 11, wherein said brightness limitation means comprises a minimum signal level detector for detecting a minimum signal  
15 level amongst the plurality of adjusted colour channel reference signals, and a comparator for generating said brightness feedback signal on the basis of the detected minimum signal level and a fixed reference signal level.

13. A method for regulating colour channel video information signals, comprising the  
20 steps of detecting a minimum signal level amongst a plurality of colour channel reference signals, comparing said minimum signal level with a fixed voltage reference signal and generating a corresponding comparator output, and providing an additive feedback coupling of said comparator output signal and each of said colour channel reference signals.

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